

CONDITIONAL BRANCHING IN AN IN-CIRCUIT EMULATION SYSTEM

ABSTRACT OF THE DISCLOSURE

An In-Circuit Emulation system. A real microcontroller (device under test) operates in lock-step with a virtual microcontroller so that registers, memory locations and other debugged data can be retrieved from the virtual microcontroller without disrupting operation of a real microcontroller. When an I/O read instruction is carried out followed by a conditional jump instruction dependent upon the I/O read data, the virtual microcontroller does not have adequate time to compute the jump address after receipt of I/O read data from the real microcontroller. Thus, when this sequence of instructions is detected, the virtual microcontroller pre-calculates the jump address and makes the jump decision after receipt of the I/O read data from the real microcontroller.